

APPLICATION NO. 09/943,131  
DOCKET NO. P1048/N8802

### COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

1. (currently amended) A resin/graphite laminate comprising multiple sheets of resin impregnated flexible graphite ~~pressure~~ cured at an elevated temperature, ~~wherein a resin content of at least one of said flexible graphite sheet comprises a sufficient amount that said laminate is dense and cohesive but said resin content comprises less than 30% by weight and a pressure of from 1000 psi to 5000 psi.~~

2. (original) The laminate of claim 1 wherein the resin is an epoxy.

3. (original) The laminate of claim 1 wherein the sheets of resin impregnated graphite are glued together with a phenolic-based adhesive prior to being pressure cured at an elevated temperature.

4. (currently amended) The laminate of claim 1 wherein the multiple sheets are pressure cured at a temperature of from 90°C to 200°C ~~and at a pressure of from 1000 psi to 5000 psi.~~

5. (original) The laminate of claim 1 wherein the density of the cured laminate is greater than about 1.85 g/cm<sup>3</sup>.

6. (currently amended) A resin/graphite laminate comprising layers of resin impregnated flexible graphite sheets together with layers of a non-graphite material, wherein the laminate is ~~pressure~~ cured at an elevated temperature; ~~wherein a resin content of at least one of said flexible graphite sheet comprises a~~

APPLICATION NO. 09/943,131  
DOCKET NO. P1048/N8802

~~sufficient amount that said laminate is dense and cohesive but said resin content comprises less than 30% by weight and a pressure of from 1000 psi to 5000 psi.~~

7. (original) The laminate of claim 6 wherein the resin is epoxy.

8. (original) The laminate of claim 6 wherein the non-graphite material is selected from the group consisting of copper, aluminum and plastics.

9. (currently amended) The laminate of claim 6 wherein the laminate is ~~pressure~~ cured at a temperature of below about 200°C ~~and at a pressure of below about 5000 psi.~~

10. (currently amended) An electronic thermal management device comprising a lamellar structure comprising sheets of resin impregnated flexible graphite ~~pressure~~ cured at an elevated temperature, ~~wherein a resin content of at least one of said flexible graphite sheet comprises a sufficient amount that said laminate is dense and cohesive but said resin content comprises less than 30% by weight and a pressure of from 1000 psi to 5000 psi.~~

11. (currently amended) The device of claim 10 wherein the lamellar structure is ~~pressure~~ cured at a temperature of from 90°C to 200°C ~~and at a pressure of from 1000 to 5000 psi.~~

12. (original) The device of claim 10, wherein the device exhibits a thermal conductivity which is anisotropic in nature and is greater than 100 W/mC in at least one plane.

13. (original) The device of claim 12 wherein the anisotropic thermal conductivity varies by a factor of at least 15 as between a plane with a higher thermal conductivity and a plane with lower thermal conductivity.

APPLICATION NO. 09/943,131  
DOCKET NO. P1048/N8802

14. (original) The device of claim 10 wherein the pressure cured lamellar structure has a density greater than about  $1.85 \text{ g/cm}^3$ .

15. (original) The electronic thermal management device of claim 10 wherein the sheets of flexible graphite have a resin content of at least about 3% by weight.

16. (canceled)

<sup>16</sup> 17. (currently amended) An anisotropic electronic thermal management device having a thermal conductivity of greater than about  $300 \text{ W/mC}$  in an in plane direction and a thermal conductivity of less than about  $10 \text{ W/mC}$  in an out of plane direction and comprising resin impregnated sheets of flexible, ~~wherein a resin content of at least one of said flexible graphite sheet comprises a sufficient amount that said laminate is dense and cohesive but said resin content comprises less than 30% by weight~~ cured at a pressure of from 1000 psi to 5000 psi.

<sup>17</sup> 18. (original) The electronic thermal management device of claim <sup>16</sup> 17 wherein the resin is epoxy.

<sup>18</sup> 19. (original) The electronic thermal management device of claim <sup>16</sup> 17 wherein the resin impregnated sheets form a lamellar structure having a density of at least  $1.85 \text{ g/cm}^3$ .

<sup>19</sup> 20. (original) The electronic thermal management device of claim <sup>16</sup> 17 wherein the resin impregnated sheets of flexible graphite have been cured at an elevated temperature and pressure to form a lamellar structure.

APPLICATION NO. 09/943,131  
DOCKET NO. P1048/N8802

<sup>20</sup>  
~~21~~. (previously presented) The resin/graphite laminate of claim 1 wherein said resin content comprises no more than 20% by weight.

<sup>21</sup>  
~~22~~. (previously presented) The resin/graphite laminate of claim 1 wherein said resin content comprises no more than 25% by weight.

<sup>22</sup>  
~~23~~. (new) The resin/graphite laminate of claim 1 wherein the sheets of flexible graphite have a resin content of from about 5% to about 35% by weight.

<sup>23</sup>  
~~24~~. (new) A resin/graphite laminate comprising multiple sheets of resin impregnated flexible graphite ~~pressure~~ cured at an elevated temperature, ~~wherein a resin content of at least one of said flexible graphite sheet comprises a sufficient amount that said laminate is dense and cohesive but said resin content comprises less than 30% by weight and a pressure of at least about 1000 psi.~~

<sup>24</sup>  
~~25~~. (new) The laminate of claim <sup>23</sup>~~24~~ wherein the resin is an epoxy.

<sup>25</sup>  
~~26~~. (new) The laminate of claim <sup>23</sup>~~24~~ wherein the sheets of resin impregnated graphite are glued together with a phenolic-based adhesive prior to being ~~pressure~~ cured ~~at an elevated temperature.~~

APPLICATION NO. 09/943,131  
DOCKET NO. P1048/N8802

<sup>26</sup> 27. (new) The laminate of claim <sup>23</sup> 24 wherein the multiple sheets are pressure cured at a temperature of at least about 90°C.

<sup>27</sup> 28. (new) The laminate of claim <sup>23</sup> 24 wherein the density of the cured laminate is greater than about 1.85 g/cm<sup>3</sup>.